

Virology Live Fall 2021

Vincent Racaniello

Study questions for session 2 – The Infectious Cycle

These questions are intended to summarize key points from this session and prepare you for the exams.

1. What is a susceptible cell? A resistant cell? A permissive cell? Which describes the only cell that can take up a virus particle and replicate it?
2. What is cytopathic effect and why do we care about it?
3. How does a plaque assay work? How many viruses are needed to form a plaque?
4. Are all virus particles infectious? What is the term used by virologists to measure this property?
5. What are the individual phases of the one step growth cycle, and what occurs during each?
6. What is MOI?
7. At an MOI of 1, a significant number of cells will get no virus particles and a similar number will get one virus particle. Some (a smaller number) will get 2, 3, or more. How do you know?

Fill out the table below.

Proportion (probability) of cells infected with:

MOI	0 pfu	1 pfu	More than 1 pfu
0.01			
0.1			
1			
10			

8. In addition to the plaque assay, what other methods are used to measure virus particles?
9. Explain why a positive result in a PCR assay for viral DNA or RNA does not mean that infectious virus is present.
10. How was genome sequencing used to identify and classify SARS-CoV-2?